

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants basically:

1. Amend claims 1, 8, 12, 13, 15, and 16.
2. Please add new claims 17-20.
3. Respectfully traverse all prior art rejections.

B. AMENDMENTS TO THE CLAIMS

Independent claims 1 and 8 have been amended to reinsert a former limitation: that an entirety of the outer peripheries of the separator and of the negative electrode is positioned outside of an outer periphery of the positive electrode except for a collector tab provided to the positive electrode so as to protrude from one side of the positive electrode.

Further, independent claims 1 and 8 as amended include a new last clause, e.g., that the positive electrode, the negative electrode, and the separator which retain a polymer electrolyte have adhesiveness for retaining their own weight. This new clause is supported, e.g., by the paragraph bridging pages 19 and 20, and further understood with reference to the following information, based on page 25, line 16 to page 26, line 2 of the original disclosure. Specifically, a precursor is impregnated into the positive electrode and the separator in advance, and then the precursor forms into the polymer electrolyte by the crosslinking reaction so that the positive electrode, the separator, and the polymer electrolyte are integrated. In the meantime, the precursor is impregnated into the negative electrode in advance, and then the precursor forms into the polymer electrolyte by the crosslinking reaction so that the negative electrode and the polymer electrolyte are integrated. After that, layers of the positive electrode integrated with the separator and

the polymer electrolyte are alternatively laminated on layers of the negative electrode integrated with the polymer electrolyte, so that the polymer battery is prepared. The integration and the lamination of the layers are brought about by the adhesiveness caused by the viscosity of the polymer electrolyte. Consequently, the positive electrolyte, the separator, and the negative electrolyte have the viscosity and thus the adhesiveness for retaining their own weight.

Dependent claims 12 and 15 have been amended to specify that $D_1 > D_2$, and that D_1 is approximately 0.5 to 2 mm and D_2 is approximately 0 to 1.8 mm. Support resides, e.g., on page 22, lines 13 to 22 of the specification. The amendment to dependent claims moots the rejections under 35 USC §112, first paragraph.

C. THE NEW CLAIMS

New dependent claim 17, dependent upon independent claim 1, specifies that viscosity of the polymer electrolyte is selected to impart to adhesiveness whereby the electrodes retain their weight in a stacked arrangement of the layers. New dependent claim 17 is supported, e.g., by the paragraph bridging pages 19 and 20 of the specification.

New dependent claim 18, , dependent upon independent claim 1 and having similar support as new dependent claim 17, specifies that viscosity of the polymer electrolyte is selected whereby the electrodes have adhesiveness for retaining weight of the respective electrodes in a stacked arrangement of the layers. New dependent claim 18 is supported, e.g., by the paragraph bridging pages 19 and 20 of the specification.

New dependent claim 19, dependent upon independent claim 1, specifies that the separator comprises a negative electrode side and a positive electrode side, and wherein a polymer electrolyte on the negative electrode side of the separator has a higher

viscoelasticity than a polymer electrolyte on the positive electrode side of the separator. New dependent claim 19 is supported, e.g., by page 18, first paragraph, of the specification.

New dependent claims 20 and 22, dependent upon claims 12 and 15, respectively that that D2 is approximately 0.1 to 1.8 mm and is approximately 10 to 50% of D1. New dependent claims 21 and 23, dependent upon new claims 20 and 22, respectively, state further that D2 is approximately 20% of D1. Each of new dependent claims 20 – 23 is supported, e.g., by page 22, lines 13 to 22, of the specification.

D. PATENTABILITY OF THE CLAIMS

Claims 1, 7-8, 11, 14 and 15 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Patent 5,415,954 to Gauthier et al in view of JP 2000-133312 to Pasquier. Claims 13 and 16 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Patent 5,415,954 to Gauthier et al in view of JP 2000-133312 to Pasquier and further in view of U.S. Patent 6,120,930 to Rouillard et al. All prior art rejections are respectfully traversed for at least the following reasons.

Applicants submit that the applied references do not teach or suggest, e.g., (1) the claimed $D_1 > D_2$ relationship; and (2) the adhesive properties as specified by amended claims 1 and 8. Various dependent claims describe the relationship even more specifically.

The relationship of $D_1 > D_2$ and adhesive properties of the independent claims reduce a risk of short circuiting due to a shift of the electrodes during processing after stacking, or due to vibrations at the time of utilization of the battery. Applicants claimed structure therefore enjoys remarkably greater reliability (see page 19, line 23 to page 20, line 4 of the present specification).

Moreover, as recited on page 20, lines 5 to 9 of the present specification, the features of new claims 17 to 19 have the effects such that "it is possible to remove the factors for lowering the adhesiveness at the time when the stacked electrodes are secured to each other by means of the viscosity of the polymer electrolyte in order to increase the vibration-proof properties of the completed battery."

E. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,
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